

CHARGE PUMP CIRCUIT

ABSTRACT

Charge pump circuit. A charge pump circuit is provided for use in a phase-lock loop circuit. The charge pump circuit comprises a charge pump core circuit that outputs a control voltage. The charge pump circuit also comprises a replica circuit that is coupled to the charge pump core circuit, wherein the replica circuit receives the control voltage and produces one or more bias signals that are coupled to the charge pump core circuit to minimize the difference between charge up and charge down currents generated by the charge pump core circuit.